Multiplying these sides respectively by 16, 9 and 4, we obtain the three triangles whose sides are respectively 41, 9, 40; 34, 16, 36, and 29, 21, 20.

If we desire to determine a particular kind of triangle, having for instance, the difference between their base and perpendiculars $= 1$; put $a = \frac{12}{5}$, and multiply the resulting sides by 25, and we get 120, 119, 169. Put $a = \frac{41}{17}$, and multiply by $\frac{289}{2}$, and we get 697, 696, 985. Put $a = \frac{169}{70}$, and multiply by 4900, and we get 23660, 23661, 33461, &c.

This last class of triangles I consider among the most interesting.

THE CORRECT METHOD OF LEAST SQUARES.—BY R. J. ADCOCK, MONMOUTH, ILL.—1. The point determined by two given points is their center of gravity. The point determined by any number of given points is their center of gravity. For combining them in sets of two, so as to take each point twice, gives the same number of other points, which being combined continually, as before, finally terminates at the center of gravity of the given points.

2. Hence a straight line which is to pass through a given point, having its direction to be determined by other given points, must pass through their center of gravity; because that is the point determined by the other given points.

3. Hence also, a straight line determined by any given points, passes through their center of gravity, and has such a direction that it passes through the two most remote centers of gravity of the two sets of points on opposite sides of the common center of gravity; and is that principal axis of least moment of inertia of the given points.

4. Hence in general, any point, line or surface, determined by any given points, is that point, line or surface which has the sum of the squares of the normals to it from the given points, a minimum. And is the point, line or surface which has the mean position of all that can be taken.

The common application of the method is incorrect, not agreeing with 2, 3, and 4.

ANSWER TO PROF. BROOKS' QUERY.—No rigorous demonstration can be given of the formula mentioned, it must be regarded as empirical.

The function $\psi(x)$, which denotes the number of primes less than x, is discontinuous, and the problem of finding functions representing it approximately is an indeterminate one. Legendre was the first to give a formula of this kind, (*Essai sur la Theorie des Nombres*, 2d Edition, Paris, 1808, p. 394, or 3d Edition, Vol. II, p. 65); it is

$$N = \frac{x}{\log x - 1.08366},$$

log x being Napierian. The constant 1.08366 evidently has been assumed so as to represent as well as possible the actual count of primes below